

ADD ON COURSE 2023-24

Add-on Course in Physics (Astronomy and Cosmology)

Duration: Smt. Hrashitha, Research Associate, University of Chile PHY-AP
30 Hours

Highlights:

- Deep dive into Astronomy and Cosmology
- Interactive Lectures and Discussions
- Hands-on Observational Techniques
- Exposure to Latest Research and Discoveries

Module 1:

06 Hours

Introduction to Astronomy

- History of Astronomy
- Celestial Sphere and Coordinate Systems
- Observational Techniques

Solar System and Exoplanets

- Structure and Composition of the Solar System
- Planetary Formation
- Discovery and Characteristics of Exoplanets

Module 2:

06 Hours

Stellar Astronomy

- Birth and Evolution of Stars
- Hertzsprung-Russell Diagram
- Supernovae and Neutron Stars

Galactic Astronomy

- Structure and Dynamics of the Milky Way
- Types of Galaxies
- Galactic Evolution

Module 3:

08 Hours

Cosmology

- Big Bang Theory and Cosmic Microwave Background
- Dark Matter and Dark Energy
- Large Scale Structure of the Universe

Module 4:

08 Hours

Astronomical Instruments and Methods

- Telescopes and Detectors
- Spectroscopy
- Astrometry and Photometry

Module 5

08 Hours

Current Research and Discoveries

- Recent Developments in Astronomy and Cosmology
- Case Studies of Landmark Discoveries
- Future Directions in Astronomical Research



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PRINCIPAL

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